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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/828,070	04/05/2001	Jenny A. Tyler	21087000100	7266

20350 7590 10/02/2002

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EXAMINER

LIN, JEYUHU

ART UNIT	PAPER NUMBER
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3737

DATE MAILED: 10/02/2002

Please find below and/or attached an Office communication concerning this application or proceeding.

LC

Office Action Summary	Application No.	Applicant(s)	
	09/828,070	TYLER, JENNY A.	
	Examiner	Art Unit	
	Jeoyuh Lin	3737	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 05 April 2001.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-15 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-15 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- 11) ☐ The proposed drawing correction filed on _____ is: a) ☐ approved b) ☐ disapproved by the Examiner.
If approved, corrected drawings are required in reply to this Office action.
- 12) ☐ The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. §§ 119 and 120

- 13) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
* See the attached detailed Office action for a list of the certified copies not received.
- 14) ☒ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).
a) ☐ The translation of the foreign language provisional application has been received.
- 15) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

Attachment(s)

- | | |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) Paper No(s). _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO-1449) Paper No(s) <u>1.5</u> . | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

Claim Objections

1. Claim 14 is objected to because of the following informalities:

In claim 14, line 2, the word, "form" should be changed into the word, "from".

Appropriate correction is required.

Claim Rejections - 35 USC § 112

2. The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

-Claim 1 recites the limitation "measurement acquisition system" in lines 8 and 9.

There is insufficient antecedent basis for this limitation in the claim.

Claim Rejections - 35 USC § 102

3. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

(e) the invention was described in-

(1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effect under this subsection of a national application published under section 122(b) only if the international application designating the United States was published under Article 21(2)(a) of such treaty in the English language; or

(2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that a patent shall not be deemed filed in the United States for the purposes of this subsection based on the filing of an international application filed under the treaty defined in section 351(a).

-Claims 1-15 rejected under 35 U.S.C. 102(b) as being anticipated by Paul et al.

(US 5,320,102)

Paul teaches a method of MR imaging of the cartilage to diagnose proteoglycan

deficiency comprising the following steps:

- Establishing magnetic field in body
- Exciting nuclei spins in body with RF signal oriented at an angle with respect to magnetic field.
- Receiving MR signals.
- Wherein the two previous steps are spin echo pulse sequences with varying echo times. (Column 3, lines 60-65)
- Repeating steps b and c and obtaining multiplicity set of MR signal and determine MR quality from the body in the form of T1 or T2-weighted signal intensity. (Column 4, lines 50-55, column 9, lines 55-60, and column 1, lines 1-8)
- Quantizing MR quality signals pixel-by pixel. (Column 5, lines 18-25 and column 11, lines 61-67)
- Displaying the image. (Column 5, lines 16-27 and column 6, lines 8-24)
- Correlating obtained quality data with known, either through previously acquired MR quality data (Column 12, lines 43-55), or with a reference signal intensity (Column 11, lines 56-62, and column 12, lines 25-30, or the combination of claims 1, 3, 7, and 10 in the instant reference)
- Determine the biological property of the body, namely the proteoglycan concentration, a biochemical property of the cartilage. (Column 11, line 62)
- Claims 1, 2, 5-7, and 10-15 are rejected under 35 U.S.C. 102(e) as being anticipated by Ackerman et al. (US 6,185,444 B1).

Ackerman teaches a method and apparatus of solid-state magnetic resonance imaging to determine the bone mineral density, comprising the following steps:

- Applying time-varying echo pulse. (Column 5, lines 58-67, column 6, lines 64-68, and column 7, lines 1-25)
- Obtaining the T2 relaxation time. (Column 5, lines 58-67)
- T1 and T2 characterization, (Column 7, lines 35-40) to determine isotopic phosphorous content, or a measure of bone mineral density. (Column 10, lines 1-45)
- Pixel by pixel analysis. (Column 10, lines 55-58)
- Image display.
- Correlating the MR data with known data. (Column 15, lines 40-45)

Conclusion

4. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

-Werhli (US 5,270,651) teaches an MR method for osteoporosis detection, comprising T1 and T2 relaxation measurement, quantifying the captured data, and determining the biochemical characteristic of the bone.

-Sharf et al. (US 6,144,199) teaches an MR method to detect quantitative image strain of tissue, comprising double quantum filtering of the image data.

5. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Jeoyuh Lin whose telephone number is (703) 306-5990. The examiner can normally be reached on m-f, 8:30-6:00.

Art Unit: 3737

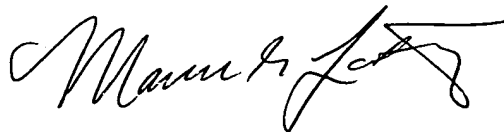
If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Marvin Lateef can be reached on (703) 308-3256. The fax phone numbers for the organization where this application or proceeding is assigned are (703) 308-0758 for regular communications and (703) 308-0758 for After Final communications.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is (703) 308-0858.

JYL

JYL

September 26, 2002



Marvin M. Lateef
Supervisory Patent Examiner
Group 3700